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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,520	07/18/2003	Ying-Ling Liu	LIUY3011/EM	1159
23364	7590	02/04/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			PAVIGLIANITI, ANTHONY JOSEPH	
		ART UNIT		PAPER NUMBER
				1626
DATE MAILED: 02/04/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/621,520	LIU ET AL.
	Examiner Anthony J. Pavigliani	Art Unit 1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-12 is/are pending in the application.
  - 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) 8 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. ____ .   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: ____ .                                   |

## DETAILED ACTION

**Claims 1 – 12** are currently pending in the application.

### *Election/Restrictions*

Applicant's election without traverse of Group I (**Claims 1 – 8**) in the reply filed on December 20, 2004, is acknowledged. Applicant further elected a compound with the structure

depicted in **Claim 1** wherein "R" is benzene, "m" is 1, "n" is 1, and Y is  $\text{OCH}_2\text{CHCH}_2$ ,

$\text{O}=\text{C}\text{OCH}_2\text{CHCH}_2$ , or  $\text{N}(\text{CH}_2\text{CHCH}_2)_2$ . **Claims 9 – 12** were withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

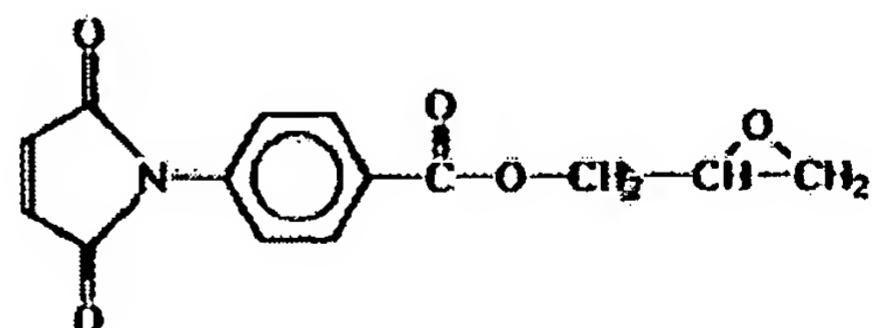
### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

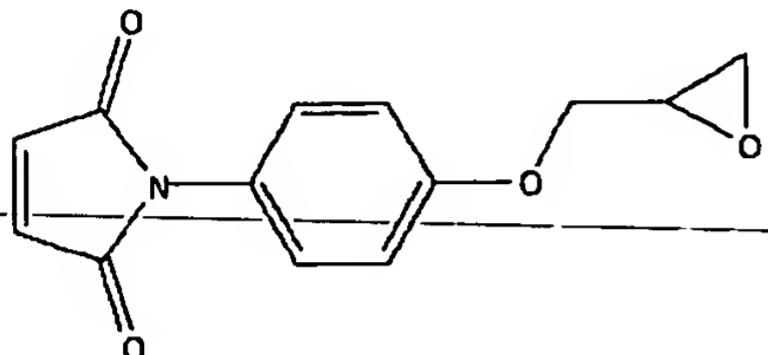
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1 – 5** and **Claim 7** are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,981,763, by Jacques Garapon and Jacques Vallet (Patent Date November 9,



1999). U.S. Patent 5,981,763 claims the compound at col. 4, line 43 (i.e., Claim 14, which incorporates the limitations of Claims 1 and 4), and at Figure 1 (sheet 1 of 2) and Figure 2 (sheet 2 of 2), which anticipates the "genus" claim in **Claim 1** of the instant application, as well as each of the additional limitations in **Claims 2 – 5** and in **Claim 7**.

Claims 1 – 6 are also rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,232,430, by Tjerk Boonstra, et al. (Patent Date May 15, 2001), which discloses the compound N-(4-[2,3-epoxypropyl]oxyphenyl)maleimide, which has the structure



, at col. 6, lines 38 – 46, which also anticipates the “genus” claim in **Claim 1**, as well as each of the additional limitations in **Claims 2 – 6**.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 – 3 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Specifically, the phrase in **Claim 1** that “*R is a residue having at least one carbon and a valence equal to the sum of m and n...*” [emphasis added] fails to comply with the written description requirement because the disclosure does not demonstrate to one skilled in the art that the inventors had possession of the invention, where given its broadest reasonable interpretation in which **R** includes *any* carbon-containing group from a single carbon atom to a complex polycyclic group, including heteroatoms such as N, O, and S. The phrase itself (“residue having at least one carbon and a valence equal to the sum of m and n”) is mentioned in the Specification

at p. 3, lines 12 – 13, but is not defined further nor described to demonstrate possession of the invention by the applicants for any compound except those for which **R** is “benzene.”

By contrast, the Specification provides sufficient support to demonstrate to one of skill in the art that the applicant had possession of the invention where **R** is “benzene,” particularly at page 3, lines 16 and 21; page 4, lines 1 and 4; and page 5, compounds “A,” “B,” and “C.”

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“Residue” is not expressly defined in the claims or in the Specification, but is defined in the dictionary as “something that remains after a part is taken, separated, or designated”; or, in the context of chemical compounds, it may also mean a constituent structural unit of a complex molecule, such as an amino acid “residue” resulting from the hydrolysis of protein. See “Residue,” definitions 1 and 2, Merriam Webster OnLine, Jan. 2005; see also Webster’s Dictionary (1913), definition 3 (“*3. Chem.* That which remains of a molecule after the removal of a portion of its constituents; hence, an atom or group regarded as a portion of a molecule...”). The Specification does not demonstrate possession by the applicant of compounds where **R** is described as a remainder after the compound was broken down, nor as a structural unit of a complex molecule (except, as noted earlier, where **R** is benzene).

For these reasons, then, **Claim 1** fails to comply with the written description requirement of 35 U.S.C. §112, except to the extent that **R** is limited to “benzene.”

Likewise, the phrase in **Claim 2** that “**R** is an *aromatic residue*” [emphasis added] would be reasonably interpreted to mean *any* aromatic group, including heterocyclic groups such as “Pyridine” or “Pyrazine”; yet the Specification simply mentions “aromatic residue” on p. 3, line 15, without further elaboration to demonstrate to one skilled in the art that the applicant had possession of the invention where **R** was any aromatic group other than benzene. **Claim 2**

Art Unit: 1626

therefore fails to comply with the written description requirement of 35 U.S.C. §112, except to the extent that **R** is limited to “benzene.”

The phrase in **Claim 3** that “**R** is a *residue of benzene*,” [emphasis added], in light of the definitions above, would reasonably be interpreted to mean that **R** could be any carbon-containing group which was a remainder or break-down product of benzene. Although the Specification mentions “Preferably, **R** is a residue of benzene,” on p. 3, line 16, the phrase is not further defined nor is there sufficient support to demonstrate to one of skill in the art that the applicant had possession of the invention where **R** was, for instance, a “straight-chain hexene.” [As noted earlier, the Specification does provide support to demonstrate that the applicant had possession of the invention where **R** is benzene (p. 3, lines 16 and 21; p. 4, lines 1 and 4; and p. 5, compounds “A,” “B,” and “C”)]. **Claim 3**, therefore, does not comply with the written description requirement of 35 U.S.C. §112, except where **R** is limited to “benzene.”

The rejection to **Claim 1** made pursuant to 35 U.S.C. §112 would be obviated by replacing the current phrase, “**R** is a residue having at least one carbon and a valence equal to the sum of m and n” with the phrase, “**R** is benzene.”

The rejection to **Claim 2** made pursuant to 35 U.S.C. §112 would be obviated by deleting the claim, as amending the claim to “wherein **R** is benzene” would add no new limitations to **Claim 1**, and also make it a substantial duplicate in the event that **Claim 1** were to be allowable.

The rejection to **Claim 3** made pursuant to 35 U.S.C. §112 would also be obviated by deleting the claim, as amending the claim to “wherein **R** is benzene” would add no new limitations to **Claim 1** and also make it a substantial duplicate in the event that **Claim 1** were to be allowable.

*Claim Objections*

**Claim 8** is objected to as dependent upon a rejected base claim, but appears to be free of the prior art if rewritten in independent form including all the limitations of the base claim and any intervening claims. See MPEP §608.01(n)(V).

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Also, the Claims as a whole should start on a separate physical sheet of paper with the claims as the object of a sentence starting with, “The invention claimed is” [or the equivalent].  
See MPEP 608.01(m). In this case, the Claims do not start with a sentence such as this, although it is noted that the phrase “What Is Claimed Is:” appears at the end of the Specification at p. 7, line 12. The Claims should be amended to start with “What Is Claimed Is:”, and the same phrase removed from the Specification.

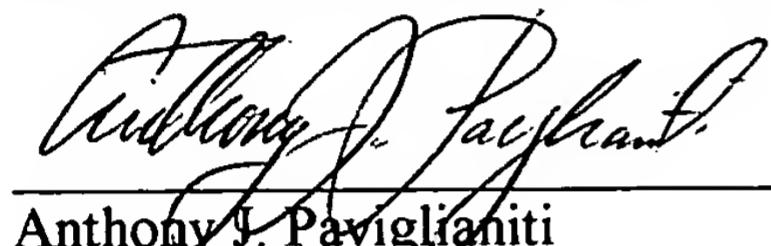
*Conclusion*

**Claims 1 – 7** are rejected under 35 U.S.C. §102(b). **Claims 1 – 3** are also rejected as failing to comply with the written description requirement under 35 U.S.C. 112, 1<sup>st</sup> paragraph.  
**Claim 8** is objected to as being dependent upon a rejected claim. The first page of the Claims is objected to and should start with “What is Claimed is.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony J. Paviglianiti** whose telephone number is (571) 272-3107. The examiner can normally be reached on Monday-Friday, 8:30 a.m. - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Joseph K. McKane, can be reached at (571) 272-0699. **The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Please note that this is a new central FAX number for all official correspondence.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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